



modular rf

MODEL AR-50
50 WATTS CW
30 MHz - 512 MHz, Multi-Band
Automatic Band-Switching/LNA with Co-Site Filter
JITC Certified

The Model AR-50 is a portable, lightweight, fully automatic band-switching RF booster amplifier for multi-band VHF/UHF Tactical Radio equipment employing legacy, proprietary and emerging waveforms. The amplifier covers the frequency band of 30-512 MHz using six high speed auto switching filters to assure harmonic suppression and is SINCGARS, HAVEQUICK, and ECCM compatible. The amplifier includes power supply Voltage Spike Suppression, a DC/DC converter for wide DC input range, RF sensing, T/R switching, Automatic Level Control (ALC), six automatically switched harmonic filter bands (DAMA capable), and protection against antenna mismatch and over-temperature. Protection against accidental polarity reversal is provided. The amplifier comprises a rugged 2-piece aluminum case. Optional interface coaxial cables and shock mounting plate are available.

- Radio Vendor independent design, single and multi-band radio compatible with just an RF connection
- 50W CW across the entire 30 – 512MHz band; no filter gap
- Full band high-speed filter switching for SINCGARS, HAVEQUICK and ECCM modes to assure interference free operation
- Separate LOS and SATCOM antenna ports
- Multi-level RF output power switch
- LOS/SATCOM LNA ON/OFF SELECTION
- Internal LNA with Co-site filtering
- **ASCM Compatible**
- **JITC/DAMA Certified with AN/PSC-5D & AN/PRC-117G**
- **JITC/IW Certified with AN/PRC-117G**
- Three year Warranty from a company with 40+ years in the business



GENERAL SPECIFICATIONS



FREQUENCY RANGE	30 MHz – 512 MHz
POWER OUTPUT	50 Watts CW nominal; 50W PEP with 80% AM modulation; <10% distortion typical
INPUT POWER RANGE CW : 1-20W	<5 Watts CW typical for 50 Watts Output; Input Protection for up to 20W CW
INPUT POWER RANGE AM :	1.5 Watt average (3 - 5W PEP) for 50W PEP output at 80% modulation
RF KEYING SENSITIVITY	<1 Watt typical
T/R & FILTER SWITCHOVER TIME	SINCGARS, HAVEQUICK, HPW, IW, ANW2, DAMA and ASCM
INSERTION LOSS BYPASS MODE	1.0 dB typical
INSERTION LOSS ACTIVE RX	1.5 dB nominal
MODULATION	AM, FM, or PM, and Tactical communications waveforms
DUTY CYCLE	Tactical operations
INPUT/OUTPUT IMPEDANCE	50 Ohm nominal
INPUT VSWR	1.5:1 nominal
HARMONICS	Better than -60 dBc typical. FULL high speed filter switching avoids interference in SINCGARS, HAVEQUICK, and ECCM Modes – No filter gaps
SPURIOUS OUTPUTS	Better than – 70 dBc
Rx LNA GAIN	12 dB typical
Rx LNA NOISE FIGURE	2 dB typical
Rx CO-SITE FILTER	Band pass frequency 239 – 273 MHz, Out of band rejection 35dB typical
POWER REQUIREMENT	12 - 33 VDC filtered and transient protected for 12 or 24 volt vehicle systems or dual XX90 batteries
CURRENT	<7.5 Amps @ 24V typical

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ENVIRONMENTAL SPECIFICATIONS

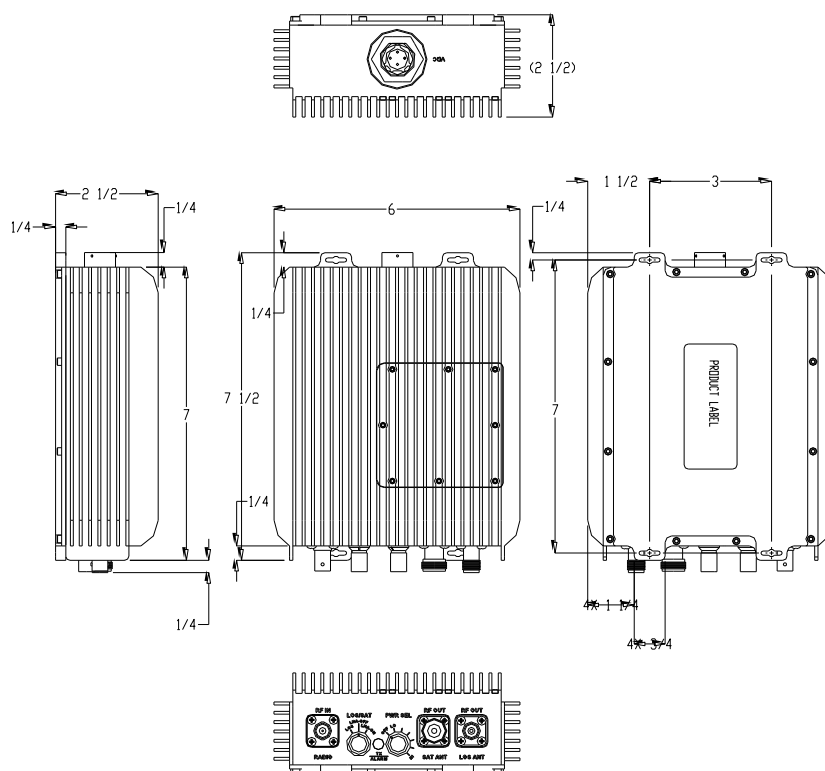
OPERATING TEMPERATURE	-30 to +60 °C Ambient
ALTITUDE (operating)	15,000 ft
IMMERSION (water)	IP67
VIBRATION / SHOCK / HUMIDITY / ENVIRO	Designed to meet applicable sections of Mil Std 810F/Designed for ground/base vehicle use

MECHANICAL SPECIFICATIONS

SIZE (HxWxD)	2.50" x 6.00" x 7.50"
WEIGHT	4.4 lb
COOLING	Natural convection required
RF CONNECTORS	RF Input(Radio) – BNC female* RF Output(LOS) – TNC Female* RF Output(SATCOM) – N-Type* <i>*RF connectors may be ordered in any configuration of BNC, TNC or N-type per customer's request</i>
DC CONNECTOR	Multi-pin connector (Mating Connector Supplied)
CONSTRUCTION	Aluminum housing with integral heatsink

OPTIONAL EQUIPMENT

BC1050	DUAL BATTERY CABLE
SMK-50	SHOCK MOUNT KIT



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